APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/626,839	07/25/2003	Ji-hyun In	Q76648	9261

23373 7590 04/13/2007	EXAMINER	
SUGHRUE MION, PLLC	BRADLEY, MATTHEW A	
2100 PENNSYLVANIA AVENUE, N.W.		
SUITE 800	ART UNIT	PAPER NUMBER
WASHINGTON, DC 20037	2187	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/13/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

	Application No.	Applicant(s)
Office Action Summary	10/626,839	IN ET AL.
	Examiner	Art Unit
	Matthew Bradley	2187

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 January 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9* is/are rejected.

7)☒ Claim(s) *10* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Response to Amendment

This Office Action has been issued in response to amendment filed 18 January

2007. Applicant's arguments have been carefully and fully considered but are moot in

view of the new ground(s) of rejection as necessitated by amendment. Accordingly, this

action has been made FINAL.

Claim Status

Claims 1-10 remain pending and are ready for examination.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims **1-9** are rejected under 35 U.S.C. 102(b) as being anticipated by Ban

(U.S. 5,404,485), hereinafter referred to as Ban.

As per independent claim **1**, Ban teach,

- o if changing of data of a data block recorded at an original address in a

    data area is requested, (Column 5 lines 46-52)   *The Examiner notes that*

    a write operation as taught by Ban anticipates the changing of data of a

    data block in that the write operation will change the data.

- o recording the data block having changed data in an alternative area

    (Column 5 lines 42-47)

- o and recording mapping information of the data block recorded in the alternative area in a mapping area; (Column 5 lines 47-50)

- o and if changing of data of the data block recorded in the alternative area is requested, recording a data block having changed data at the original address in the data area and (Column 6 lines 9-27) *The Examiner notes that Ban teach a transfer unit. When the block is updated, the system of Ban selects a block that is labeled as the transfer unit that becomes the new location of the block with the updated data. The old block that the data came from is erased and marked as the transfer unit. Additional writes to the updated data block will be written back to the transfer unit thus anticipating the instant limitation.*

- o deleting the mapping information of the data block recorded in the alternative area from the mapping area (Column 5 lines 47-50). *The Examiner notes that when the mapping information is changed, to show the new block location of the data, the old mapping information pointing to the alternative area will be deleted as it is overwritten.*

As per dependent claim **2**, Ban teach, wherein the mapping information is a logical block number of the data block (Column 5 lines 50-52).

As per dependent claim **3**, Ban teach, wherein if the changed data of the data block are recorded in the alternative area, the changed data are recorded in a temporary block of the alternative area (Column 6 lines 9-27). *The system of Ban writes to a transfer unit block. Any additional writes to the block will cause the system of Ban*

to write to a different block, the original address, thus the writing of the data to the

transfer unit block is temporary.

As per dependent claim **4**, Ban teach, wherein if the changed data of the data

block are recorded in the data area, the changed data are recorded in a location of the

data area corresponding to a logical block number of the data block (Column 5 lines 50-

52).

As per independent claim **5**, Ban teach,

- o   receiving a data block write request in the flash memory; searching

    mapping information on the data block to be requested to write in the

    mapping area; if there is no mapping information on the data block to be

    requested to write, writing the data block to be requested to write in the

    alternative area and recording the mapping information on the data block

    in the mapping area; and if there is mapping information on the data block

    to be requested to write, writing the data block to be requested to write in

    the original address of the data area and deleting the mapping information

    on the data block to be requested to write from the mapping area (Column

    5 line 42 to Column 6 line 27). *The Examiner incorporates by reference*

    herein the comments made supra with respect to claim 1.

As per independent claim **6**, Ban teach,

- o   receiving a data block read request in the flash memory; searching

    mapping information on the data block to be requested to read in the

    mapping area; if there is no mapping information on the data block to be

requested to read, reading the data block to be requested to read from the

original address of the data area; and if there is mapping information on

the data block to be requested to read, reading the data block to be

requested to read from the alternative area (Column 5 lines 18-35 and

Column 6 lines 9-27). *The Examiner incorporates by reference herein the*

comments made supra with respect to claim 1.

As per independent claim **7**, Ban teach,

- o a data area having an original address in which changed data of a data

  block are recorded when changing of data of a data bock recorded in an

  alternative area is requested; (Column 5 lines 46-52) *The Examiner*

  notes that a write operation as taught by Ban anticipates the changing of

  data of a data block in that the write operation will change the data.

- o the alternative area in which the changed data of the data block are

  recorded when changing of data of the data block recorded in the original

  address of the data area is requested; and (Column 6 lines 9-27) *The*

  Examiner notes that Ban teach a transfer unit. When the block is updated,

  the system of Ban selects a block that is labeled as the transfer unit that

  becomes the new location of the block with the updated data. The old

  block that the data came from is erased and marked as the transfer unit.

  Additional writes to the updated data block will be written back to the

  transfer unit thus anticipating the instant limitation.

    o   a mapping area in which a mapping table containing mapping information
of the data block recorded in the alternative area is recorded and from
which the mapping information of the data block is removed when the
changed data of the data block are recorded in the original address of the
data area (Column 5 lines 47-50).

As per dependent claim **8**, Ban teach, further comprising a master block
containing information on the data area, the alternative area, and the mapping area
(Column 2 lines 57-60).

As per dependent claim **9**, Ban teach, wherein a physical block number of the
data block existing in the data area corresponds to a logical block number on a one-to-
one basis (Column 2 lines 20-30).

Allowable Subject Matter

Claim **10** is objected to as being dependent upon a rejected base claim, but
would be allowable if rewritten in independent form including all of the limitations of the
base claim and any intervening claims.

Response to Arguments

Applicant's arguments filed 18 January 2007 have been carefully and fully
considered but are moot in view of the new ground(s) of rejection as necessitated by
amendment.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1. GB 2291990A Alan Welsh Sinclair teach a flash memory management system.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew Bradley whose telephone number is (571) 272-8575. The examiner can normally be reached on 6:30-3:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald A. Sparks can be reached on (571) 272-4201. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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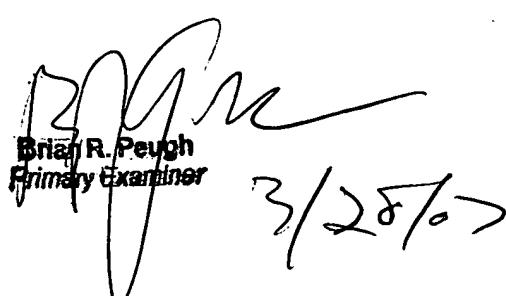
Brian R. Peugh
Primary Examiner

3/28/07